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List of Abbreviations

AAM	Alternatively activated macrophages
ACT	Artemisinin-combination therapy
Ag	Antigen
BMI	Body mass index
Breg	Regulatory B cells
CAM	Classically activated macrophages
CBC	Complete blood count
cIMT	Carotid Intima Media Thickness
CT	Cycle-treshold
CTLA-4	Cytotoxic T-lymphocyte-associated protein 4
CRP	C-reactive protein
CVD	Cardiovascular diseases
Dreg	Regulatory D cells
DM2	Type-2 diabetes
FBG	Fasting blood glucose
HC	Hip circumference
HDL	High density lipoprotein
HIC	High income countries
HIV	Human immunodeficiency virus
HOMA-IR	Homeostasis model assessment for insulin resistance
IBD	Inflammatory bowel diseases
IFN- γ	Interferon γ
IgE	Immunoglobulin E
IL	Interleukin
iRBC(PfRBC)	Infected red blood cells (<i>Plasmodium falciparum</i> infected red blood cells)
ITN	Insecticide-treated nets
LDL	Low density lipoprotein
LLIN	long-lasting insecticide-treated nets
LMIC	Low-to-middle income countries
LPS	Lipopolysaccharide
miRNA	MicroRNA
metS	Metabolic syndrome
MS	Multiple sclerosis
PRDX	Peroxisiredoxin
PHA	Phytohaemagglutinin
RCT	Randomized control trial
SPT	Skin prick test
STH	Soil-transmitted helminths
T2D	Type-2 diabetes
TB	Tuberculosis
TC	Total cholesterol

TG	Triglyceride
Th	T-helper
TGF- β	Transforming growth factor β
TIgE	Total IgE
TNF/TNF- α	Tumor necrosis factor/ Tumor necrosis factor- α
Treg	Regulatory T cells
TST	Tuberculin skin test
uRBC	Uninfected red blood cells
WC	Waist circumference
WHR	Waist-to-hip ratio

Curriculum Vitae

Aprilianto Eddy Wiria was born in Jakarta, Indonesia on the 29th of April 1980. After completing his secondary education at Canisius College High School in Jakarta, in 1998, he entered the Faculty of Medicine at the University of Indonesia (FMUI), Jakarta in the same year and obtained his medical degree in January 2006. Thereafter he worked at the Department of Parasitology FMUI where he became appointed as a lecturer in 2007.

During his time at medical school, he was active in the organization of Media Aesculapius, a Bimonthly National Health Newspaper and in the Asian Medical Students' Association (AMSA). In 2003 he was the chair of the 24th AMSA Conference and later was the head of AMSA (OC) in 2003/4. Currently, he is active in developing the AMSA Alumni Club.

In 2006 he was selected as a PhD candidate for a collaborative project between FMUI and Leiden University Medical Center funded by the Royal Netherlands Academy of Arts and Sciences (KNAW). The project was to undertake a longitudinal randomized anthelmintic-control trial (www.ImmunoSPIN.org) coordinated by Prof. Dr. Maria Yazdanbakhsh and Dr. Taniawati Supali. Toward the end of his PhD he also worked under the supervision of Prof. Dr. Jan Smit on metabolic syndrome and cardiovascular diseases. The results of the ImmunoSPIN project and the outcome of the research on the effect of helminth infection on insulin sensitivity and on atherosclerosis are described in this thesis.

As part of his PhD he established the Flores field research site, collaborated with the local public health authority and oversaw activities of the community workers on the research project. After his PhD he will be involved in projects investigating non communicable diseases. Overall he is driven to link clinical care to research and would like to pursue a career as a research-clinician.

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I have got my PhD. Yeayyy!!!

To thank everyone that enabled me to finish this PhD, I would need to write another book.

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I was introduced to Dr Taniawati Supali who later introduced me to Prof Maria Yazdanbakhsh. Sometime ago I would have said I felt trapped, but now, I would say thanks to both of you for all the 'troubles' that have thought me science in an academic and non-academic way.

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